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LIGO: The Laser Interferometer Gravitational Wave Observatory

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The Laser Interferometer Gravitational Wave Observatory (LIGO) endeavours to detect gravitational waves from astrophysical sources. The observatory comprises three kilometer-scale interferometers at two distinct sites: one in Richland, Washington, the other in Livingston, Louisiana. In this talk we will give an overview the LIGO science goals and then describe some technologies that LIGO may share with light sources, such as the large-scale vacuum enclosure; pristine optics and cleanliness requirements; the myriad feedback and feed-forward controls that maintain the detectors at their respective operating points; and issues originating in the physical environment, such as tides, earthquakes, and ever-present anthropogenic noise sources.